

REMARKS

Present Status of the Application

It is noted with great appreciation that the Office has allowed claims 16-20. However, the Office has rejected claims 1-15 under 35 U.S.C. 103(a) as being unpatentable over Rhodes (US 6,569,700) in view of Shibib (US 6,228,750). The Office has also rejected the claims 10-11, 13 under 35 U.S.C 112, 2nd paragraph, for providing insufficient antecedent basis.

Claims 1-20 remain pending in the present application of which claims 1, 10-11 and 13 have been amended to more accurately describe the present invention. It is believed that no new matter is added by way of these amendments made to the claims or otherwise to the application.

Applicant has most respectfully considered the remarks set forth in this Office Action. Regarding the obvious rejections, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the presently pending claims. The reasons that motivate the above position of the Applicant are discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited.

Discussion of Office Action Objections and Rejections

The Office Action rejected the specification and claims 10, 11 and 13 under 35 U.S.C. §112, 2nd paragraph as failing to provide sufficient antecedent basis for the limitation "forming, a material constituting and an annealing operation" in a buffer layer in the claim.

In response thereto, Applicants have amended claims 10-11 and 13 to properly depend on claim 9. Applicants believe that the amendments made to the claims have rectified the 112, 2nd paragraph rejections. Reconsideration and withdrawal of the rejection are courteously requested.

The Office Action rejected claims 1-15 under 35 U.S.C. 103(a) as being unpatenable over the Rhodes (USP 6,611,037) in view of Shibib (USP 6,228,750).

With regard to the 103 rejections of the claims by Rhodes in view of Shibib, Applicants respectfully traverse the rejection for at least the reasons that Rhodes and Shibib, neither alone nor in combination, teach or suggest each and every element of the claims in issue.

Regarding the prior art reference Rhodes, Rhodes discloses forming a plurality of trenches in a well region of a substrate. As conceded by the Office, the doped layer 311 in the trench of Rhodes is formed by **doping** the well region (col. 8, lines 45-55), which fundamentally teaches away the feature of “depositing a doped layer of a second conductive type over the well region of the first conductive type in the substrate”.

The Office then relies on Shibib and asserts that Shibib teaches the missing feature. Applicants respectfully disagree. The coating material 107 of Shibib, which is construed to be comparable to the doped layer of a second conductive type of the invention, is a sacrificial layer, which is formed and is eventually removed or altered to be non-conductive. As specifically taught in col. 4, lines 15-19 of Shibib, “the in-situ doped polysilicon may be allowed to oxidize to form a dielectric isolation layer or be removed through etching techniques”. The present

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invention teaches, on the other hand, that the doped layer of a second conductive type of the invention must be retained in order to form the photodiode of the invention. The removal of the doped layer will render the claimed invention inoperable. Hence, the motivation to combine Rhodes with Shibib to obtain the claimed invention is lacking.

For at least the reasons that discussed above, Applicants submit that the combination of Rhodes and Shibib still fails to render claim 1-15 unpatentable. Withdrawal of the rejection is respectfully requested.

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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